THE WESTERN AUSTRALIAN
NATURALIST

Vol. 23 31st January 2002 No. 3

STATUS OF THE WOMA, *ASPIDITES RAMSAYI*, IN SOUTH-WEST WESTERN AUSTRALIA

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INTRODUCTION

It has been widely publicised that the south-western population of the Woma or Sand Python *Aspidites ramsayi* is critically endangered (Smith, 1981: Barker & Barker, 1994; Bush *et al.*, 1995; Cogger *et al.* 1993 and Pearson 1993). To elaborate further on the south-western Woma's status the following is quoted from Smith (1981) "About 80% of the Western Australian Museum's accessions of *A. ramsayi* are between 1925 and 1944. There have only been two (3% of total *A. ramsayi* accessions for the area) in the last 10 years. There seems little doubt that the south-western population is close to extinction".

RECORDS SINCE 1980

In this paper, I present a brief overview of recent records in the south-west and offer some recommendations. Apart from efforts by the Western Australian Society of Amateur Herpetologists Inc. (WASAH) to locate individuals and increase public awareness, not much more is being done. For the purpose of this paper the south-western *A. ramsayi* population is that recorded north to Yuna (28°20', 115°00'), south to Boddington (32°48', 116°28'), inland to Menzies (29°42', 121°02') and east to the western edge of the Nullarbor Plain (Cogger *et al.*, 1993). It should be mentioned that the most southerly record (R8263) from Boddington in the Darling Range was not kept as a specimen. Another population inhabits Peron Peninsula (25°56', 113°41'), Shark Bay. This population may be disjunct from that further south but it is possible that *A. ramsayi* may occur in suitable habitats in the intervening area between Kalbarri (27°43', 114°10') and Shark Bay, although it is unconfirmed from this region (Storr and Harold, 1980). The region between Geraldton and Kalbarri encompasses the northern wheatbelt and although there are old records, there are no confirmed recent records (Storr *et al.* 1983). The only

confirmed recent records from the wheatbelt region are two large adults about 2 metres total length. One was active in the early morning adjacent to a railway line during April 1986 at 12km north Marchagee (29°57', 116°04'). It was unfortunately killed due to mistaken identity and lodged at the WA Museum (R97089). The other was collected active on a track by a farmer northeast of Watheroo (30°18', 116°03') in August 1989, see photos of this snake in (Barker and Barker, 1994) and (Bush *et al.*, 1995). This snake was subsequently released at capture site. Confirmation of *A. ramsayi* from Peron Peninsula, Shark Bay was only made as recently as 1981 with a head being lodged at the WA Museum (R73548). Since then reliable sightings have included an adult active during the day on the roadside 2km south of Denham in April 1993 (M.True, pers. comm.) and a juvenile active at night between Denham and Monkey Mia in December 1998 (D. Pearson, pers. comm.). Recent accessions at the WA Museum from Shark Bay include a juvenile from the Denham townsite in 1996 (R129302) and an adult male from 3km north of Denham in 1998 (R132804). Details on their relative abundance, local distribution and habitat preferences are unknown at this stage. However it would appear from these recent records that this population is more secure than their wheatbelt counterpart. It is possible that recent eradication measures of foxes and cats by CALM have benefited the Shark Bay population. However, the effects of predation on pythons by introduced predators is unsubstantiated (Pearson, 1993), though it seems highly likely that young snakes would be taken (Wilson and Knowles, 1988). The Shark Bay area is also largely uninhabited, encompasses large areas of national parks and is additionally listed a World Heritage area, perhaps adding to the security of this population. To my knowledge, east of the wheatbelt in the goldfields region there are no confirmed *A. ramsayi* records since 1980. However I have received a very reliable sight record from an amateur herpetologist of a snake active at night in *Triodia* plain country just north of Bandya homestead (27°44', 122°11') during October 1992 (M. Herbert, pers. comm.) Historically there are few *A. ramsayi* records from the goldfields region (Smith, 1981), the most recent being another sight record of a road kill south of Menzies (29°42', 121°02') made in February 1966. Similar to the more recent records from Shark Bay there has been two encouraging confirmations of *A. ramsayi* from the western edge of the Nullarbor Plain, this region apparently being the eastern extremity of the south-western population. They were made in 1992 and in February 1996 at Kitchener (31°02', 124°11') on the transline, the latter specimen was lodged at the WA Museum (R137988). The preferred habitat of south-western *A. ramsayi* appears to be myrtaceous heath on sandplain (Smith, 1981). In view of the recent records presented here this view of habitat would seem to be correct, at least in the wheatbelt region. The habitat on northern Peron Peninsula, Shark Bay is floristically different from the country further south but generally the soils are sandy. Both of the recent wheatbelt records were on sandy soils. The vegetation at the Watheroo capture site consists of a *Banksia* dominated heathland on deep yellow sand containing numerous rabbit warrens. The opposite side of the track where the snake was active is cleared farmland. The Marchagee record was made near the Marchagee Nature Reserve, an area

consisting predominantly of heath on sandplain. This presumed habitat preference is further supported by several unconfirmed sightings in areas of extensive sandplain habitat in the wheatbelt region. Until further confirmed sightings occur we can only rely on previous information, though I would not preclude it from occurring around rocky areas. Overall, it is widely believed that *A. ramsayi* is generally associated with sandy areas.

COMMENTS ON DISTRIBUTION

To a large degree the current distribution of *A. ramsayi* is poorly known in Western Australia. Due to their secretive habits and the fact that large areas of this State remain uninhabited or not intensively sampled biologically (i.e. eastern deserts) it is not definite whether some *A. ramsayi* populations are actually disjunct. Most authors however do support the view that the south-western population is indeed isolated from the northern and eastern desert populations, this being reflected in published distribution maps (Storr *et. al.*, 1986) and (Barker and Barker, 1994). Until the species has been reliably confirmed from the intervening areas, its distribution remains rather ambiguous. In my opinion the main area of contention is whether the eastern records on the Nullarbor Plain are continuous northwards through the Great Victoria and Gibson Deserts, eventually connecting with the main central Australian population. One could speculate based on the evidence of aboriginal records (Pearson, 1993) and the vast areas of suitable sandy habitats, that these populations may not be isolated at all. It is interesting to note that the aboriginal groups at Cosmo Newbery (28°00', 122°54') do not recognize *A. ramsayi* (Pearson, 1993). Consequently if the Nullarbor population is in fact continuous through to central Australia via the Gibson Desert, then perhaps the link lies to the south of Cosmo Newbery. In the north-west there is a substantial gap between Shark Bay and the coastal northern Pilbara with no records of *A. ramsayi*, despite there being extensive areas of apparently suitable *Triodia* sandplain habitat including the North-West Cape peninsula (Storr and Hanlon, 1980) and Onslow region (Storr and Harold, 1985). It seems unlikely that *A. ramsayi* is found to the north and east of Shark Bay due to the presence of unsuitable habitat of heavy soils dominated by mulga woodlands (Smith, 1981). This large area is primarily degraded pastoral country and supports minimal understorey. The most southerly coastal Pilbara museum record (R79003) is from near Mundabullangana Homestead (20°31', 118°03') with more recent sightings from near South Hedland (pers. obs.). A reliable sighting of an active snake in *Triodia* plain near Karratha (20°44', 116°51') was made in November 1993 (P. Anyon, pers. comm.).

PYTHON AWARENESS

The 'critically endangered' status of the south-western *A. ramsayi* population was highlighted in the Australian Reptile Action Plan (Cogger *et. al.* 1993). In addition the Australian Nature Conservation Agency (ANCA), now known as Environment Australia (EA), includes this population on the Australian and New Zealand Environment and Conservation Council (ANZECC) list of endangered vertebrate fauna. Since the publication

of the Action Plan, none of its recommended management actions have been implemented. As *A. ramsayi* numbers in the wheatbelt have dramatically declined, WASAH thought it necessary to at least initiate two of the recommended management actions: "develop community awareness within the population's known range" and make enquiries about the possibility of a captive breeding program with the Department of Conservation and Land Management (CALM) as emphasised by Barker and Barker (1994). Increasing public awareness of *A. ramsayi* was perceived as the best way of locating a population. The chance of finding pythons during irregular visits to favourable sites by amateur herpetologists is very slim considering the apparent scarcity of the species. WASAH produced a 'Wanted' sheet for this python population with brief details and colour illustrations that was widely circulated to shops (displayed in windows), farmers and resident naturalists in the wheatbelt region, though primarily in the Eneabba-Badgingarra and Moora-Coorow areas. Additionally an awareness story was published in both State and regional newspapers. In 1997 WASAH submitted to CALM a detailed captive breeding program proposal for south-western *A. ramsayi* with an emphasis on establishing trial breeding techniques, using *A. ramsayi* from the more common desert population. The response to the circulation of information, combined with discussions with interested parties (i.e. tourist operators), has been very encouraging. Several potential sightings of *A. ramsayi* were received from as far north as the Northampton-Kalbarri area, to locations within 100km radius of Perth, though it is probable that these southerly sightings are based on Southern Carpet Pythons *Morelia spilota imbricata*. The most encouraging records were the reports of "slow-moving, large thickset, banded snakes" from the Watheroo-Coorow region. It is noteworthy that this area retains substantial areas of national parks and reserves. Despite encouraging dialogue with survey respondents, no positive confirmation of *A. ramsayi* was made. These potential sightings all seemed to be of adults as were the recent confirmed records from the wheatbelt. This is of considerable concern as recruitment through reproduction may be negated by a combination of low numbers and predation. I submitted a license application to CALM for the purpose of field-work combined with maintaining and breeding south-western *A. ramsayi* in captivity on 31 July 1996. A reply on 6 November 1998 stated that "In view of the current state of knowledge on the species CALM does not consider it appropriate to issue any licenses to take this species for breeding study purposes". To date no decision has been made to address WASAH's captive breeding proposal for this population. To my knowledge, in W.A. the only successful captive breeding of this species has occurred at the Perth Zoo, that maintains animals from the northern desert population (R. Browne-Cooper pers. comm.).

RECOMMENDATIONS

In view of the recent positive public responses to the awareness program, it seems encouraging that south-western *A. ramsayi* populations may still persist, though in low numbers. Based on current knowledge of distribution which is poor for many areas, I make the following recommendations: As the south-western population is likely to be geographically isolated it is imperative

that its taxonomic status be established. Several herpetologists have remarked on the morphological and colour differences between this population and others (Barker and Barker, 1994). Similarly, in Queensland specimens from western and eastern localities are biochemically indistinct from each other (Covacevich and Couper, 1996). A similar situation of conservation status and reasons for decline to south-western Australia has been highlighted for *A. ramsayi* in eastern Queensland (Covacevich and Couper, 1996). That CALM concur with Cogger, *et al.* (1993) and Environment Australia in recognising south-western *A. ramsayi* as a distinct population and elevate it to Schedule 1 as "fauna that is rare or likely to become extinct". The endangered status of this population is exacerbated by the lack of formal recognition of its probable divergence. The Shark Bay population should be used for a trial radio-telemetry study to gather information on ecology and local distribution. This can be then applied to the wheatbelt if an individual or even better, a viable population is located. If this scenario ever eventuated measures would have to be taken to eradicate introduced predators in the area. That CALM recognise the urgency of the need to improve the conservation status of south-western *A. ramsayi*, as one of the world's rarest pythons. They should endorse the recommended management actions of Cogger *et.al.* (1993) and acquire the appropriate funds to undertake these actions. In the interim WASAH will continue with searches, public awareness and communications with CALM in this regard.

ACKNOWLEDGEMENTS

I thank John Dell, Greg Harold, Robert Browne-Cooper and Brian Bush for their comments on this manuscript. Thanks also to those WASAH members who assisted in 'wanted' sheet circulation and field-work, and survey respondents who interest was very encouraging.

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